

(No Model.)

G. TROUVÉ.

PORTABLE ELECTRIC PROPELLER FOR BOATS.

No. 368,796.

Patented Aug. 23, 1887.

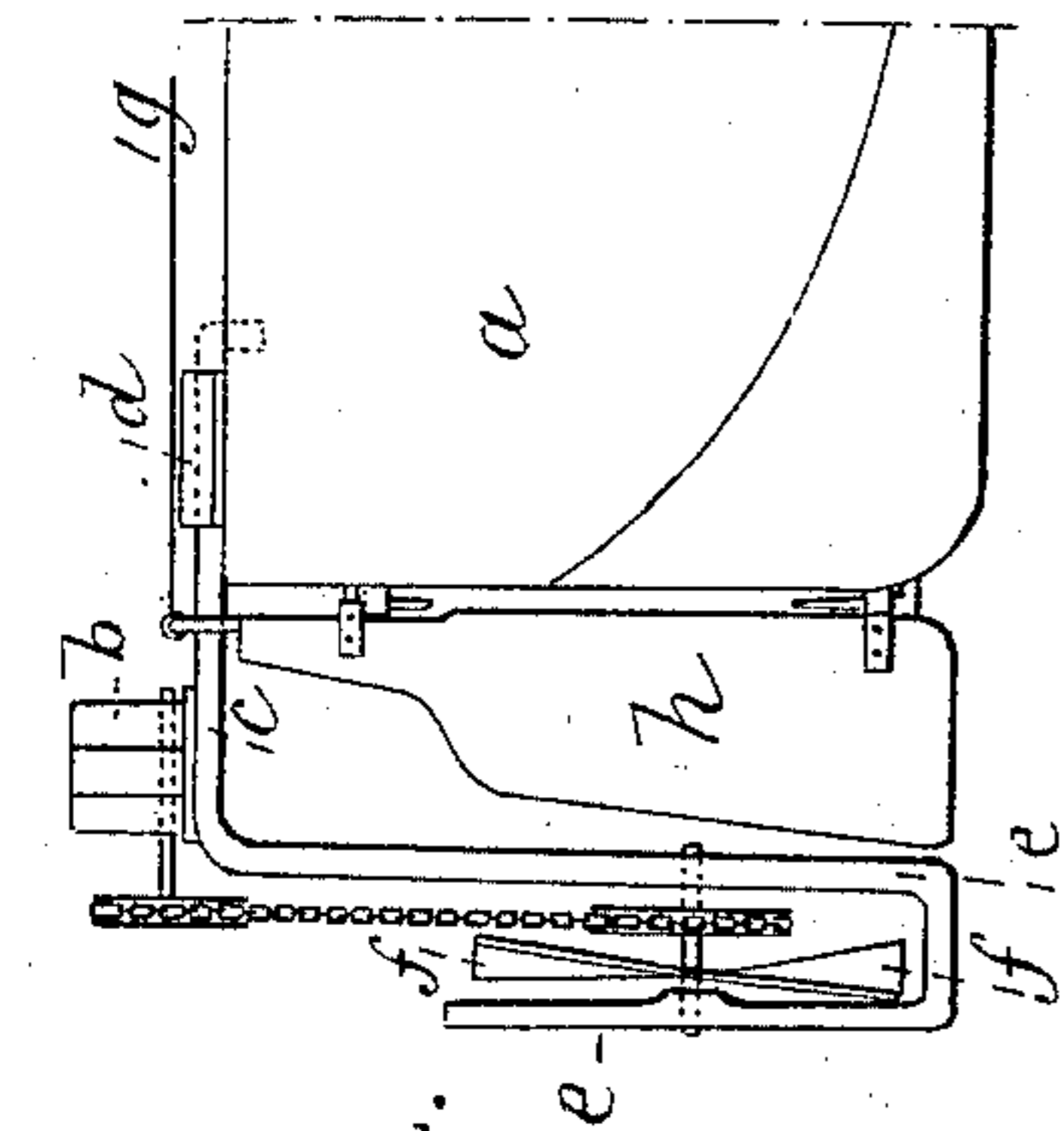


FIG 4.

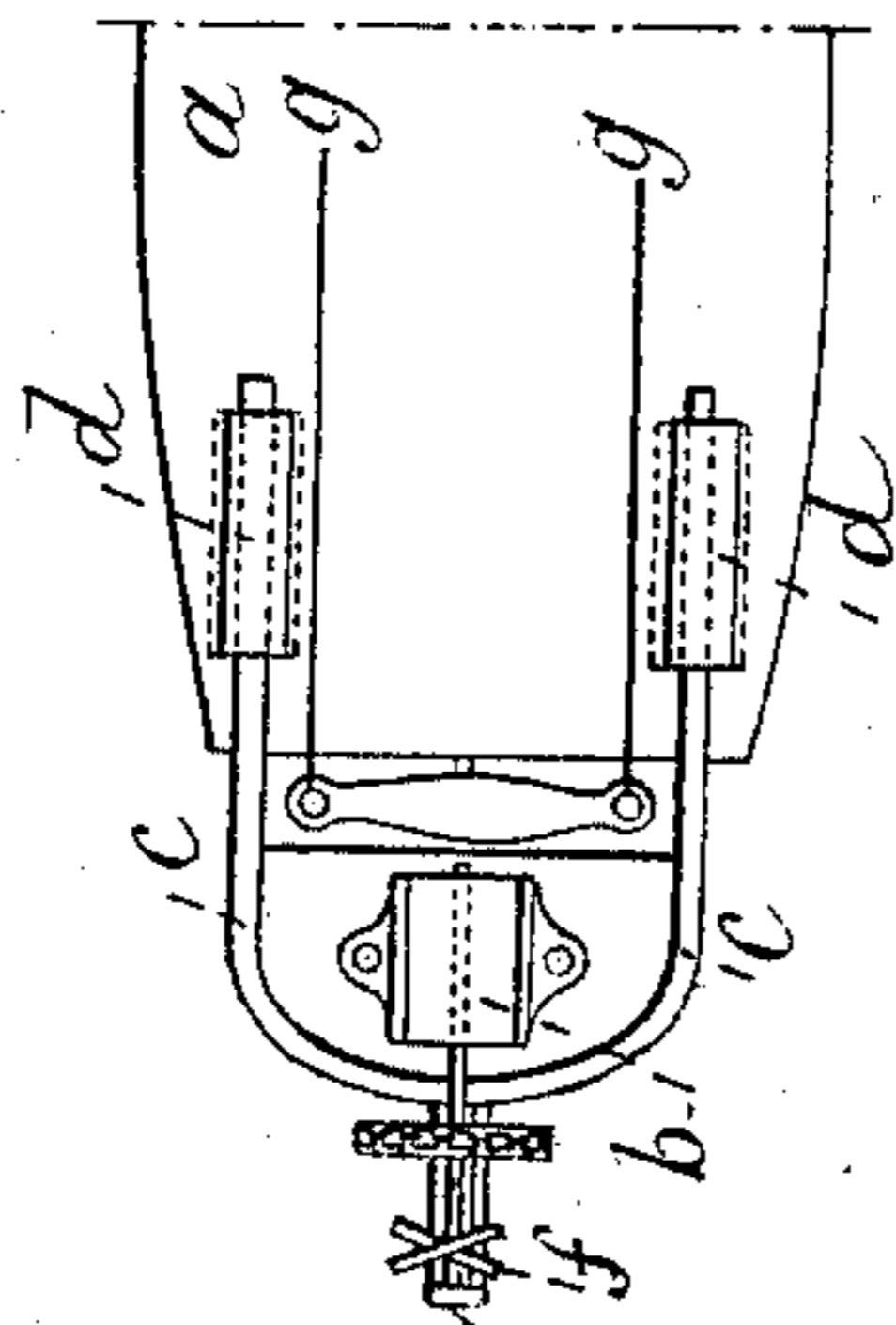


FIG 5.

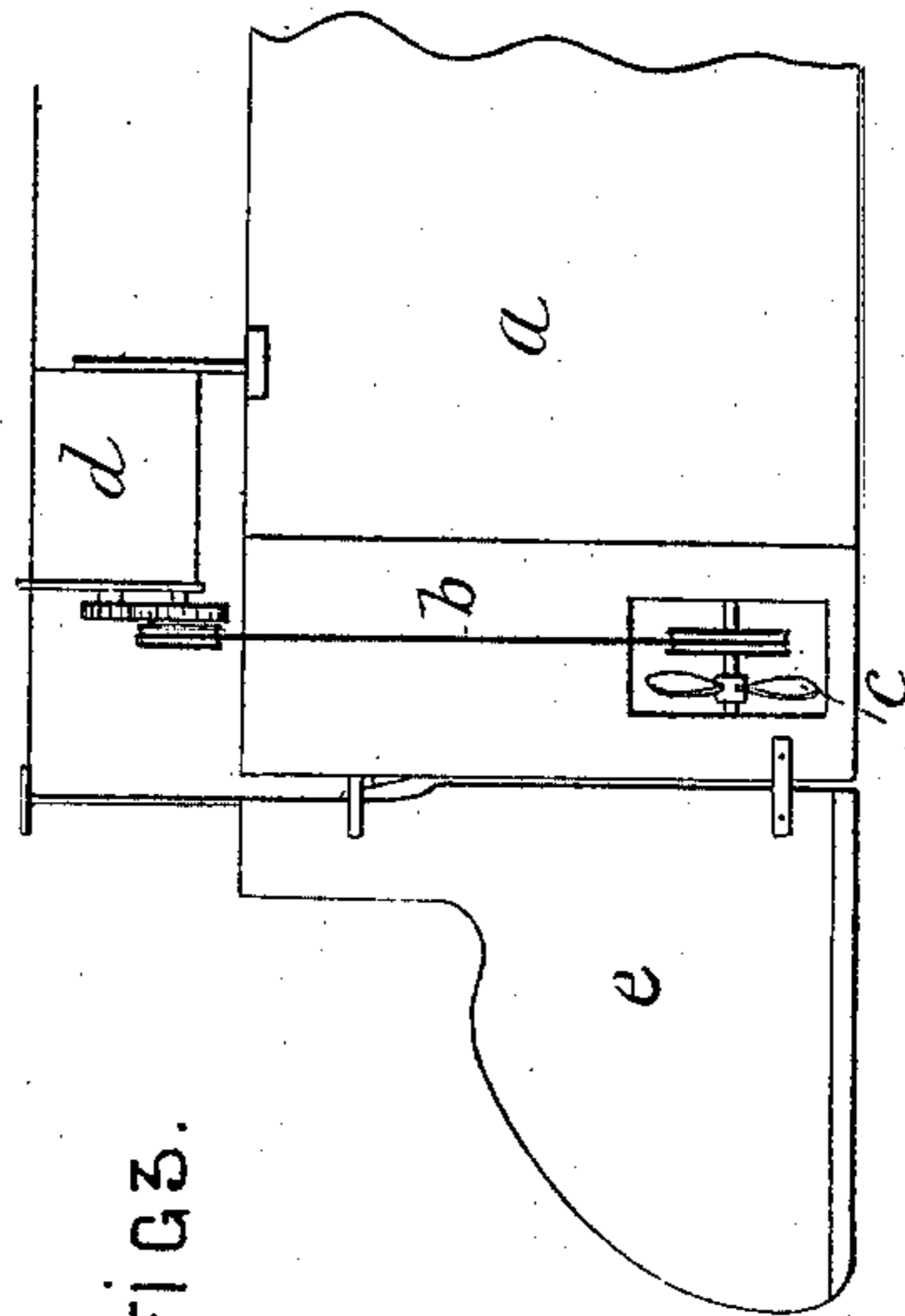


FIG 3.

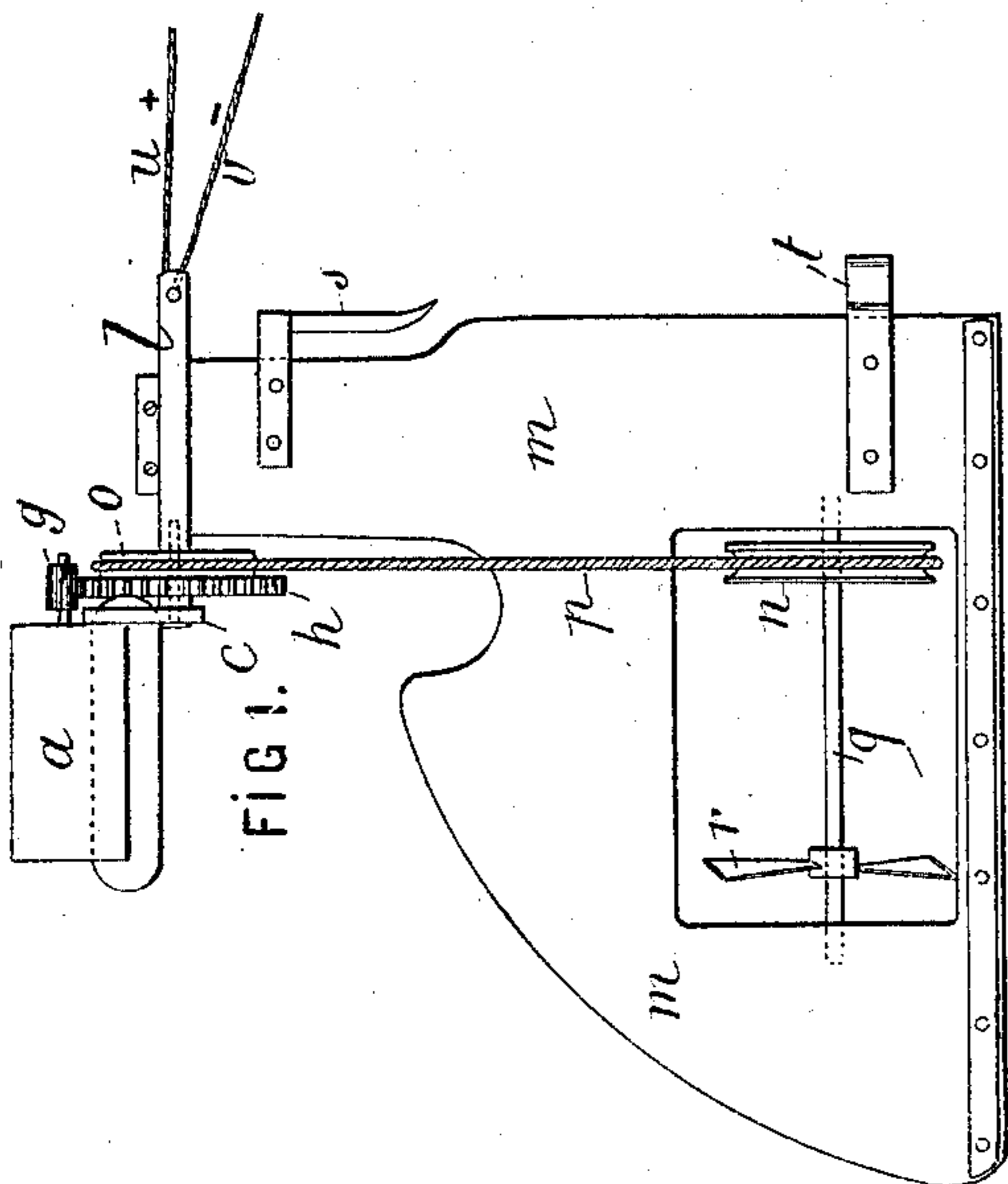


FIG 1.

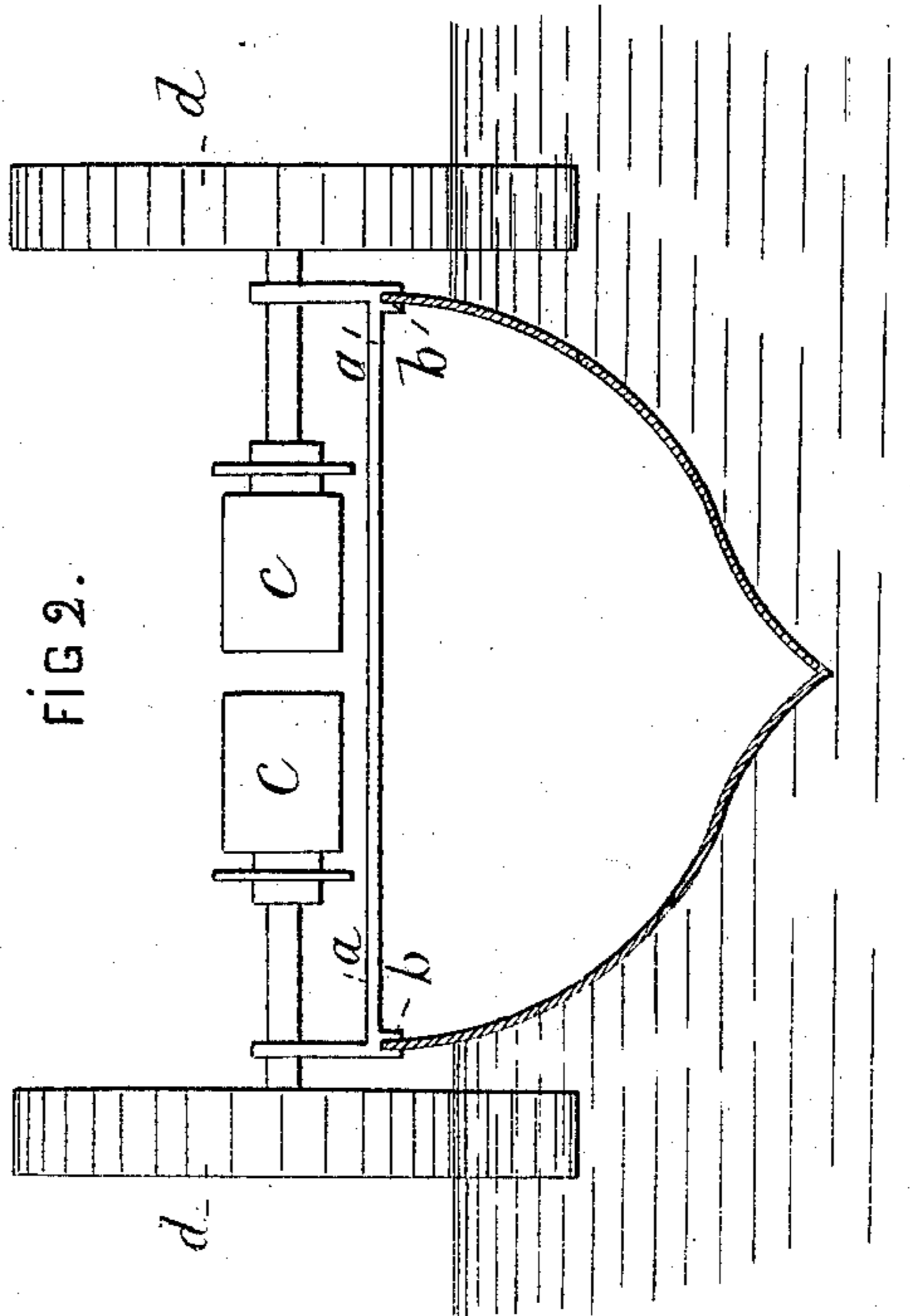


FIG 2.

Witnesses.  
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Gustave Trouvé.  
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# UNITED STATES PATENT OFFICE.

GUSTAVE TROUVÉ, OF PARIS, FRANCE.

## PORTABLE ELECTRIC PROPELLER FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 368,796, dated August 23, 1887.

Application filed September 18, 1884. Renewed December 3, 1886. Serial No. 220,735. (No model.) Patented in France May 8, 1880, No. 136,560, and in England October 2, 1880, No. 4,009.

*To all whom it may concern:*

Be it known that I, GUSTAVE TROUVÉ, of the city of Paris, France, have invented a Portable Electric Propeller for Boats, (patented in France May 8, 1880, No. 136,560, and in Great Britain and Ireland October 2, 1880, No. 4,009,) of which the following is a full, clear, and exact description.

The accompanying drawings represent different modes of carrying out the invention.

Figure 1 represents the motor applied to the rudder of a boat. The motor *a* is mounted on the yoke *l* of the rudder *m*, as usually constructed, and it transmits the motion by means of pulleys *n* and *o* and a belt, *p*, (or its equivalent,) to a shaft, *q*, upon which is keyed the screw-propeller *r*, mounted in an opening in the rudder. The rudder is turned as usual upon its pintle at *s t* by means of the lines *u v*, which also serve as conductors for conveying the current from a battery carried in the boat to the motor *a*. The yoke *l* of the rudder is made triangular, as usual, the motor being supported upon the apex pointing aft, while the rudder-lines *u v* are attached to the two other extremities. It will be seen that all the parts are removable, and may be applied to all kinds of rudders. I thus obtain a combined steering and propelling rudder which may be readily substituted for the ordinary rudder in rowing and other boats. I am aware that a screw-propeller has before been mounted in a rudder; but the screw received motion from a driving-shaft on the boat, whereas in the present case the rudder itself carries the means of propulsion and its motor, and can be readily removed when desired.

Fig. 2 shows the electric motor applied for driving a pair of paddle-wheels, *d*, it being understood that my invention includes the combination of any kind of propeller with an electric motor. In this example both the paddle-wheels and the motor may, as in the first case, be entirely removed from the boat when desired. For this purpose the base-plate *a*, upon which the motor is mounted, is provided with crutches *b*, to fit upon the gunwale of the boat. The motor or motors *c* may drive either directly or otherwise the paddle-wheels *d*.

Instead of mounting the screw-propeller in

the rudder, it may be supported in a frame or false rudder placed between the rudder and the stern of the boat, so as to enable the rudder to be unshipped at any time for repairs without interfering with the motor. This arrangement is shown in Fig. 3, in which *a* is the boat, *b* the false rudder, in which is mounted the screw-propeller *c*, receiving motion from motor *d*. *e* is the rudder hung upon the false rudder *b* in any suitable manner. The motion may be transmitted from the motor to the screw-propeller in any suitable manner, and both may be mounted upon the same part, and their relative position with regard to the rudder varied according to circumstances.

Figs. 4 and 5 represent an elevation and plan of an arrangement of my invention, in which the rudder is placed in front of the propeller. *a* is the boat; *b*, the motor mounted on the upper part of a frame, *c*, which is hung on the stern end of the boat by means of guide-sockets *d*, or in other suitable manner—such as hinges, for example—so as to allow of instantly bringing the propelling apparatus inboard when fouled by weeds, or for putting it out of action. The frame *c*, which is forked or bowed at its upper part, as shown, extends downward in the form of a single central bar, which is bent upward again, as at *e*, to form a support for the shaft of the screw-propeller *f*, which receives motion from the motor by any suitable mode of transmission. *g g* are the yoke-lines attached to the yoke *h* of the rudder, which is hung on pintles in the usual way.

The form and dimensions of the framing supporting the motor and propeller, as well as the arrangement of the latter, may be varied so long as the principle is retained of applying an electric motor to the propulsion of boats of all kinds in such manner as to be readily unshipped and detached from the boat.

I claim—

1. The combination of a removable propeller and a removable electric motor, whereby said propeller is operated, with a boat which is driven by the operation of said motor and propeller, substantially as set forth.

2. A rudder, in combination with a propeller attached thereto, and a motor which operates said propeller, these three devices being

removable from the body of the boat, substantially as set forth.

3. A removable attachment to the stern of a vessel, in combination with a motor, and a propeller-shaft supported by said attachment and removable therewith, substantially as set forth.

4. A rudder, *m*, which is removably attached to the stern of a boat, in combination with the motor *a*, propeller *r*, and intermediate connecting-gearing, all supported by said rudder and removable from the boat therewith.

5. The rudder *m*, provided with the yoke *l*,

in combination with the rudder, motor, intermediate gearing, and the lines *u* and *v*, which serve both as means for turning the rudder and as electric connections for actuating the motor, substantially as set forth.

The foregoing specification of my portable electric propeller for boats signed by me this 23d day of August, 1884.

GUSTAVE TROUVÉ.

Witnesses:

ROBT. M. HOOPER,  
ALBERT MOREAU.